DOCO®
INTERNATIONAL

Installation Manual

DOCOROLL T100 Insulated Roller Shutter Doors

DHF Door & Hardware Federation

CE

UK

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1. Symbols and/or warning signs.

General DANGER !! symbol
ATTENTION !! symbol
Carefully read the text when you see this symbol !!

Symbol : Risk of personal injury!!
Carefully read the text when you see this symbol !!

2. General

This Installation Manual was written specifically for use by trained and qualified personnel and is therefore not suitable for apprentices or 'DIY-ers'.
If anything regarding installation and/or maintenance is not clear, please contact DOCO International.

To prevent serious personal injury, all directions and instructions in this manual should be carefully read and observed.

- This manual describes the installation of DOCOROLL T100 Insulated Roller Shutter Doors with Safedrive® motors, but it may be necessary to consult other installation manuals such as the one for the Safedrive® motor.
- This DOCOROLL T100 Insulated Roller Shutter Door is designed in accordance with the latest European standards, however you should check whether it complies with your local national standards.
- Adding or removing parts may have an adverse effect on the operation and thus the safety of the final installed door.
- All instructions regarding handing (right/left installation) are seen from the place of installation, i.e. from the inside looking out!
- Unless stated otherwise, all measurements are in millimetres.
- After installation, check whether the CE mark has been affixed and completed.
- This manual should be carefully stored.
- We reserve the right to modify specifications without written notice.

2.1 Safety requirements regarding installation and use

- DOCOROLL T100 Insulated Roller Shutter Door may only be installed, connected and commisioned by trained and qualified personnel.
- When working on the electrics, always ensure the power is and remains isolated!
- Never bypass safety features!

- Some parts have sharp edges - use safety gloves.
- Never operate the DOCOROLL T100 Insulated Roller Shutter Door if you see that the safety features are damaged.

- During installation / maintenance of the door, wear at least gloves, safety shoes and, when drilling, safety goggles!
- Always ensure a stable footing when working.
- Secure the installation / maintenance area using appropriate safety devices to keep others at a distance.
- Maintenance should only be performed by a specialist firm and/or qualified personnel.
- Provide adequate lighting.

3. Directives and standards

The following directives and standards were used during the design, production and installation of these doors.

98/37/EEC	**Machine Directive**
89/106/EEC	**Construction Equipment Directive**
89/336/EEC	**EMC Directive**
73/23/EEC	**Low Voltage Directive**
EN 12604:2000	Mechanical aspects; requirements and classification
EN 12605:2000	Mechanical aspects; testing methods
EN 12445:2000	Safety for powered gates; testing methods
EN 12453:2000	Safety for powered gates, requirements
EN 13241-1:2003	Door and gate product standard

3.1 Warranty and liability

Unprofessional installation, unauthorized alterations (other parts) to the door or alterations to the drive that are not in compliance with this manual will invalidate the warranty and thus will release the manufacturers from any liability.
This also includes damage resulting from incorrect operation, failure to follow the instructions in this manual and/or poor maintenance and/or care.

4 Installation

4.1 Application

DOCO International has developed our DOCOROLL T100 Insulated Roller Shutter Doors for installation in industrial entrances/exits to be used safely for vehicles and/or people.*
These doors contain the following features:

- Insulated steel lath curtain with unsprung barrel and Safedrive® motor.
- Compliance with the CE standard provided only DOCO International parts are used (unless stated otherwise).

* If the door is switched to automatic or remote control, extra measures need to be taken to guarantee safety! See paragraph 4.16.3.c) *Control: Automatic operation or via remote*.

4.1.1 Specifications

DOCOROLL T100 Insulated Roller Shutter Door:
3.0m min. width to 6.0m max. width
3.0m min. height to 6.0m max. height
Door surface: 36m2 max.
Weight: 800kg max.
Resistance to wind – Class 4 (up to 142 kph)
Installation details: see system drawings

EN 13241-1 classification: see appendix 4

This manual describes the installation of a DOCOROLL T100 Insulated Roller Shutter Door using only DOCO International parts. Any installation of parts not specified or other parts not described in this manual is the responsibility of the installer. The installer is therefore, responsible for the correct CE certification of the sectional door.

DOCO International Limited has carried out thorough and rigorous in house product testing. Additionally, in conjunction with our preferred suppliers, we have carried out external product testing, to ensure that our doors are manufactured to meet the highest standards as specified in EN 13241-1. Refer to appendix 4 for classification details

This “product testing” does NOT include any wicket door. If you DO install a wicket door, additional “product testing” is needed. This is the responsibility of the purchaser/installer.

4.2 Scope of supply

The door supplied by us includes the following parts, the details of which depend on the door dimensions and the type of lifting system.

Guides:

- Vertical guides manufactured form 2mm pre-galvanised cold rolled sections
- Guides are bolted onto pre galvanised angle sections.
- Each guide is fitted with extruded double brush seals (4 per guide)

Barrel assembly:

- End plates and fixing angles – mild steel and primed
- Shafts
- Tubular barrel
- Bearings

Curtain:

- 100mm deep steel interlocking lath sections
- Polystyrene lath infill – fire retardant and CFC free
- Plastic endlocks - rivets
- Cast wind endlocks (size dependant) - rivets
- Bottom rail and rubber seal

Drive and control unit:

- Guthrie Douglas (GFA) Safedrive® motor – selected to suit size and weight of door
- Digital limits
- Floor level rapid hand chain override
- TS958 controller – impulse open, deadmans close only
- TS970 controller – automatic operation with timed automatic closure
- Pluggable interconnection cable – sized to suit height of door

Options:

- Galvanised sheet steel hood
- Motor cover
- Plastisol finish to lath
- Powder coat finish to lath, guides and hoods
- Vision windows – clear styrolux – 208 wide x 48 high
- Optical safety bottom edge – pluggable system
- Lintol draught brush

4.3 Installation tools

Here is a minimum list of the necessary tools:

- Level (hose)
- Drill
- Battery - drill
- Tape measure
- Ratchet and cover 8mm /10mm / 13mm
- Ring/open-ended spanner: 10 – 11mm / 12 – 13mm
- Blind rivet pliers
- Rope
- Ladder or scaffolding / cherry picker / scissor lift
- Iron file
- Allen keys
- Drill bits: Ø9 , Ø10 , Ø13
- Working gloves
- Safety goggles
- Safety boots

Always wear safety goggles and gloves when drilling!

4.4 Systems and system drawings

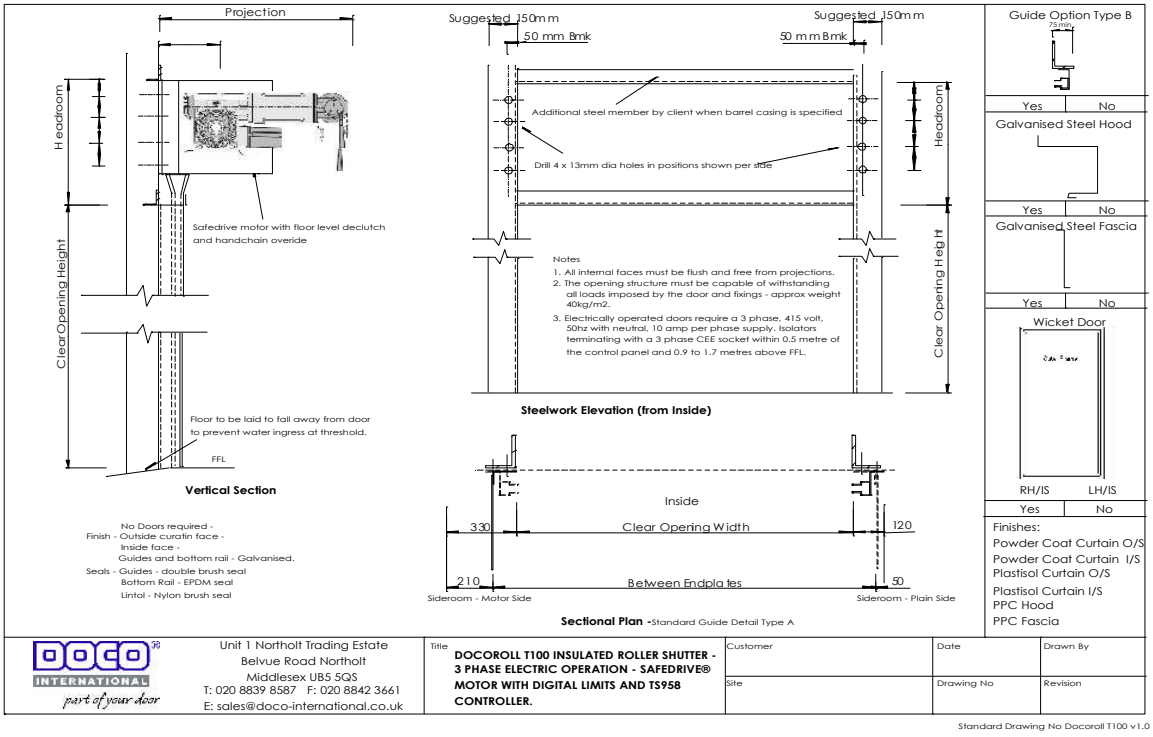
We use the following 6 systems:

- Doors < 3000 clear height – 500mm headroom – Motor Position 1 - Guide Type 1 & 2 see 4.4.1
- Doors < 5500 clear height – 600mm headroom – Motor Position 1 - Guide Type 1 & 2 see 4.4.1
- Doors < 6000 clear height – 650mm headroom – Motor Position 1 - Guide Type 1 & 2 see 4.4.1
-
- Doors < 3000 clear height – 500mm headroom – Motor Position 2 - Guide Type 3 see 4.4.2
- Doors < 5500 clear height – 600mm headroom – Motor Position 2 - Guide Type 3 see 4.4.2
- Doors < 6000 clear height – 650mm headroom – Motor Position 2 - Guide Type 3 see 4.4.2

The following pages feature system drawings for the systems mentioned.

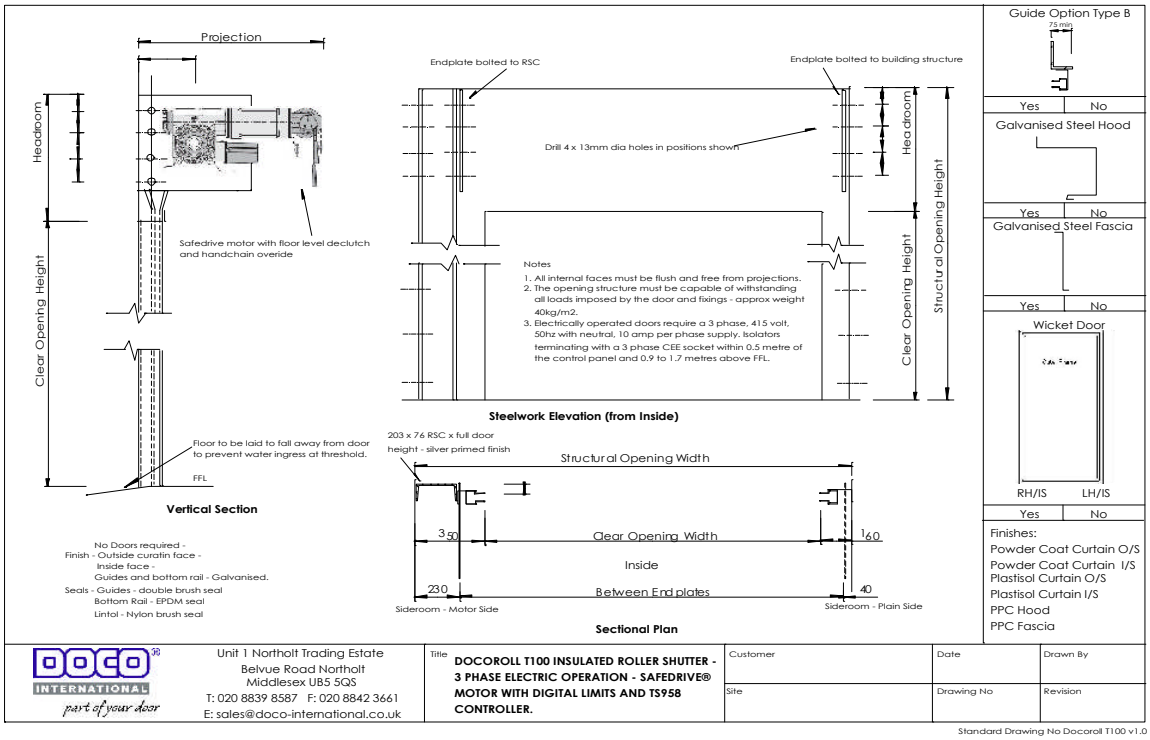
4.4.1 System drawing:

Doors < 3000 clear height – 500mm headroom – Motor Position 1 - Guide Type A & B
Doors < 5500 clear height – 600mm headroom – Motor Position 1 - Guide Type A & B
Doors < 6000 clear height – 650mm headroom – Motor Position 1 - Guide Type A & B


Projection
Suggested 150mm
50 mm Bmk
Suggested 150mm
50 mm Bmk
Headroom
Clear Opening Height
Safedrive motor with floor level declutch and handchain overide
Additional steel member by client when barrel casing is specified
Drill 4 x 13mm dia holes in positions shown per side
Notes
1. All internal faces must be flush and free from projections.
2. The opening structure must be capable of withstanding all loads imposed by the door and fixings - approx weight 40kg/m2.
3. Electrically operated doors require a 3 phase, 415 volt, 50hz with neutral, 10 amp per phase supply. Isolators terminating with a 3 phase CEE socket within 0.5 metre of the control panel and 0.9 to 1.7 metres above FFL.
Floor to be laid to fall away from door to prevent water ingress at threshold.
FFL
Vertical Section
Steelwork Elevation (from Inside)
Inside
330
Clear Opening Width
120
210
Between Endplates
50
Sideroom - Motor Side
Sideroom - Plain Side
Sectional Plan -Standard Guide Detail Type A
No Doors required -
Finish - Outside curatin face -
Inside face -
Guides and bottom rail - Galvanised.
Seals - Guides - double brush seal
Bottom Rail - EPDM seal
Lintol - Nylon brush seal
Guide Option Type B
75 min
Yes
No
Galvanised Steel Hood
Galvanised Steel Fascia
Wicket Door
RH/IS
LH/IS
Finishes:
Powder Coat Curtain O/S
Powder Coat Curtain I/S
Plastisol Curtain O/S
Plastisol Curtain I/S
PPC Hood
PPC Fascia
Unit 1 Northolt Trading Estate
Belvue Road Northolt
Middlesex UB5 5QS
T: 020 8839 8587 F: 020 8842 3661
E: sales@doco-international.co.uk
Title
DOCOROLL T100 INSULATED ROLLER SHUTTER - 3 PHASE ELECTRIC OPERATION - SAFEDRIVE® MOTOR WITH DIGITAL LIMITS AND TS958 CONTROLLER.
Customer
Date
Drawn By
Site
Drawing No
Revision
Standard Drawing No Docoroll T100 v1.0

4.4.2 System drawing:

Doors < 3000 clear height – 500mm headroom – Motor Position 2 - Guide Type C
Doors < 5500 clear height – 600mm headroom – Motor Position 2 - Guide Type C
Doors < 6000 clear height – 650mm headroom – Motor Position 2 - Guide Type C


Projection
Endplate bolted to RSC
Endplate bolted to building structure
Headroom
Clear Opening Height
Structural Opening Height
Safedrive motor with floor level declutch and handchain overide
Drill 4 x 13mm dia holes in positions shown
Notes
1. All internal faces must be flush and free from projections.
2. The opening structure must be capable of withstanding all loads imposed by the door and fixings - approx weight 40kg/m2.
3. Electrically operated doors require a 3 phase, 415 volt, 50hz with neutral, 10 amp per phase supply. Isolators terminating with a 3 phase CEE socket within 0.5 metre of the control panel and 0.9 to 1.7 metres above FFL.
Floor to be laid to fall away from door to prevent water ingress at threshold.
FFL
Vertical Section
Steelwork Elevation (from Inside)
203 x 76 RSC x full door height - silver primed finish
Structural Opening Width
350
Clear Opening Width
160
Inside
230
Between End plates
40
Sideroom - Motor Side
Sideroom - Plain Side
Sectional Plan
No Doors required -
Finish - Outside curatin face -
Inside face -
Guides and bottom rail - Galvanised.
Seals - Guides - double brush seal
Bottom Rail - EPDM seal
Lintol - Nylon brush seal
Guide Option Type B
75 min
Yes
No
Galvanised Steel Hood
Galvanised Steel Fascia
Wicket Door
RH/IS
LH/IS
Finishes:
Powder Coat Curtain O/S
Powder Coat Curtain I/S
Plastisol Curtain O/S
Plastisol Curtain I/S
PPC Hood
PPC Fascia
Unit 1 Northolt Trading Estate
Belvue Road Northolt
Middlesex UB5 5QS
T: 020 8839 8587 F: 020 8842 3661
E: sales@doco-international.co.uk
Title
DOCOROLL T100 INSULATED ROLLER SHUTTER - 3 PHASE ELECTRIC OPERATION - SAFEDRIVE® MOTOR WITH DIGITAL LIMITS AND TS958 CONTROLLER.
Customer
Date
Drawn By
Site
Drawing No
Revision
Standard Drawing No Docoroll T100 v1.0

4.5 Installation details

- Make sure the opening for the door to be installed is level and that the construction is strong enough to carry the track sets.
- Ensure the floor is level and devoid of irregularities. If not, fill in.
- Before starting on the installation, assess whether the mounting place fulfils the minimum requirements (*figure1.)*

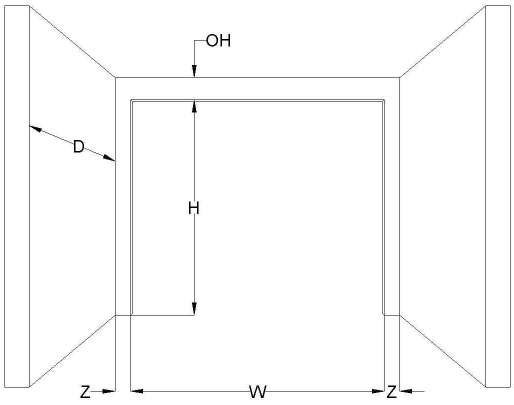


Fig 1

W = clear width
H = clear height
OH = clearance above
Z = side clearance
D = clearance for endplates and motor

Prior to commencing installation - check that all components have been correctly supplied against the packing list / bill of materials supplied with the door. In the event of a discrepancy, this must be reported to Doco International for remedial action prior to installation of the door.

4.6 Installation of End Plates

The fixings needed for mounting the guides to the wall or opening structure are not included with the door! The installer is responsible for ensuring that the opening structure is structurally strong enough to carry the door. The installer is also responsible for the correct fixings for the relevant structure (brick, concrete, steel, wood).

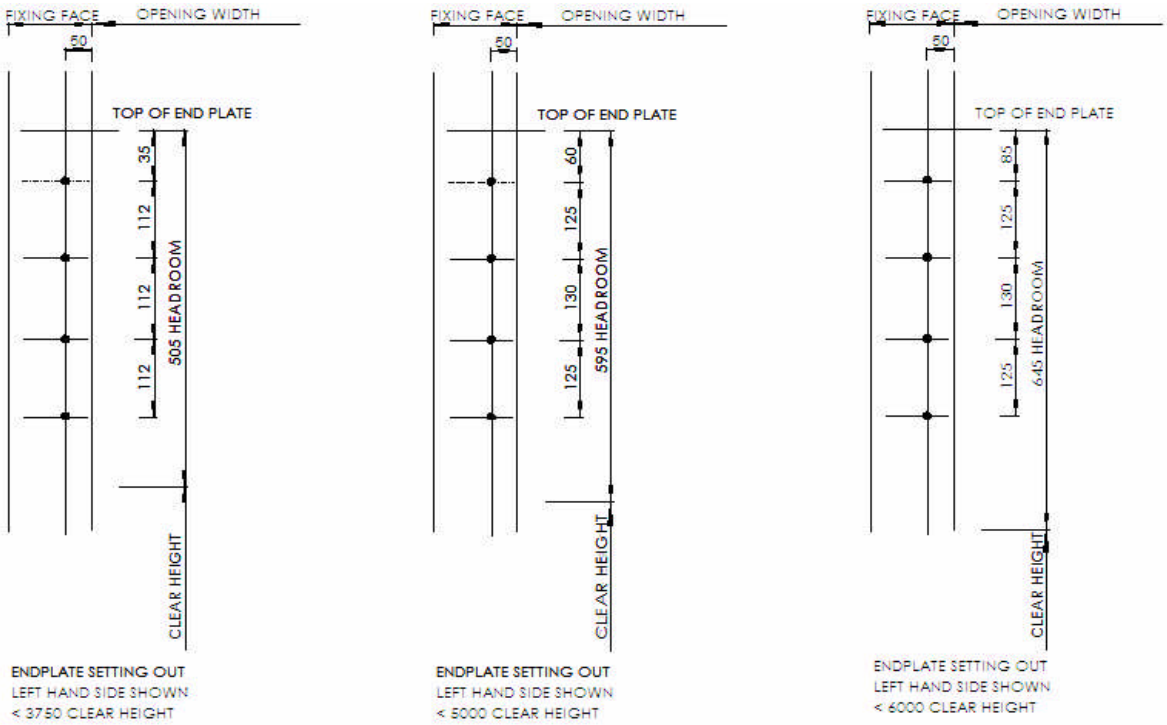


Diagram 1

Mark position of top of left hand endplate onto the fixing face as shown in diagram 1.
Drill 4 x 13mm dia holes.
If floor is level repeat for right hand end plate.
If floor is not level, use a water level, level or laser level to establish the top position of the right hand endplate.
Bolt end plates to structure using 4 x 12mm bolt sets (refer to appendix 1 for torque settings). Check distance between endplates against contract drawing before tightening bolts.

4.7 Installation of Barrel

Remove steel key from barrel motor shaft and keep safe.
Fit bearings onto shaft with flat fixing face positioned towards barrel. Temporarily tighten grub screws
Lift barrel into slots on endplate ensuring longer shaft is positioned on the required motor side.
Fit safety/strengthening angles across mouth of both end plate slots using M10 bolt sets provided (refer to appendix 3 for torque settings) to ensure barrel cannot fall during installation (diagram 2).
Loosen bearing grub screws and slide bearings to meet back of endplate.
Position centre of barrel shaft according to the dimension given on the contract drawing or as shown in diagram 3. Fix bearings to slotted holes in both end plates using 14mm x 50 mm bolt sets provided (refer to appendix 3 for torque settings).
Refit steel key to motor shaft.

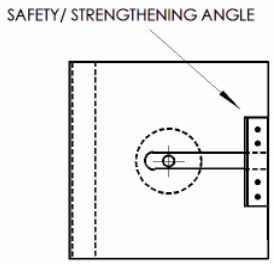


Diagram 2

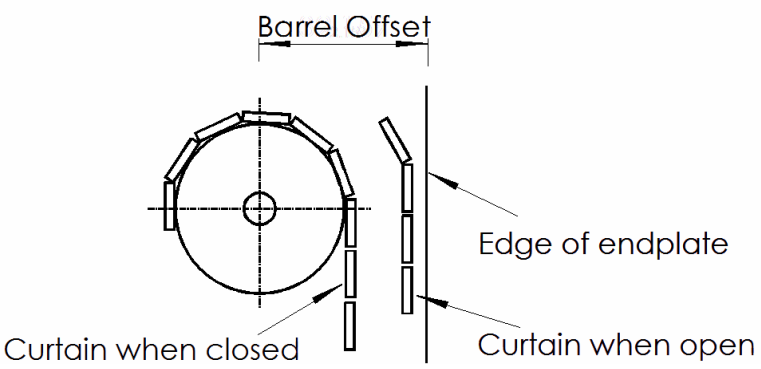


Diagram 3

4.8 Installation of Safedrive® Motor

Inspect drive shaft for damage or dirt, e. g. dents, weld splashes, paint, tape etc. Generously grease hollow shaft and stub shaft. Rotate barrel to align shaft keyway with keyway in motor and carefully slide Safedrive® motor onto stub shaft until fixing holes in motor foot fixing bracket align with holes in endplate motor support bracket (Diagram 4, position A). Once positioned bolt motor foot to bracket using 12mm x 30mm bolt sets provided (refer to appendix 3 for torque setting) Fit motor support bracket to endplate (diagram 4, position B) using 14mm x 40mm bolt sets provided, (refer to appendix 3 for torque settings).

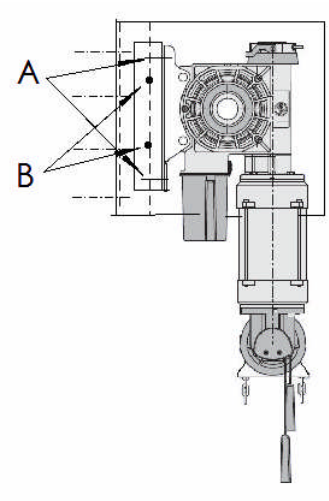


Diagram 4

Check haul chain length, the bottom of the chain should be 500mm above floor level, use chain extension within motor box if necessary. The hand chain links can be opened at the connection point and the chain can be lengthened or shortened with connecting links. The connecting links should be bent together carefully. When changing the chain length, care should be taken to ensure that the chain is cross assembled (see Diagram 5)

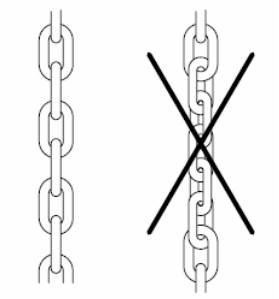


Diagram 5

4.9 Installation of Curtain

Pull the Safedrive® engaging handle (red) and pull the haul chain to rotate barrel until lath fixing points face inwards (9 o'clock position) see diagram 6

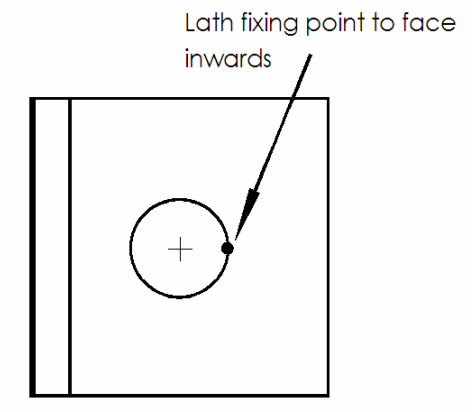


Diagram 6

On the floor locate the top lath section (top slotted lath and four normal lath) and slide four lath onto the bottom of the top section to form a curtain section of nine laths. Fit the plastic endlock to 6th lath and fix using steel rivets.

Roll the nine assembled lath from bottom to top leaving the slotted lath exposed. Lift the rolled lath to the barrel and feed the lath, top lath first between the wall and over the top of the barrel (Diagram 7) Align slots with fixing points on barrel and loose fix lath with M8 x 20mm bolts provided. Ensure top lath is level and is mounted centrally on barrel then tighten bolts. see diagram 8 (refer to appendix 3 for torque settings).

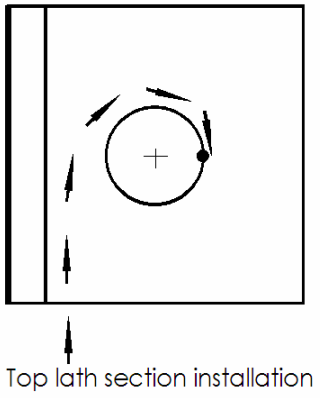


Diagram 7

TOP LATH PROFILE

WINDLOCK

ENDLOCK

LATH
Component Identification

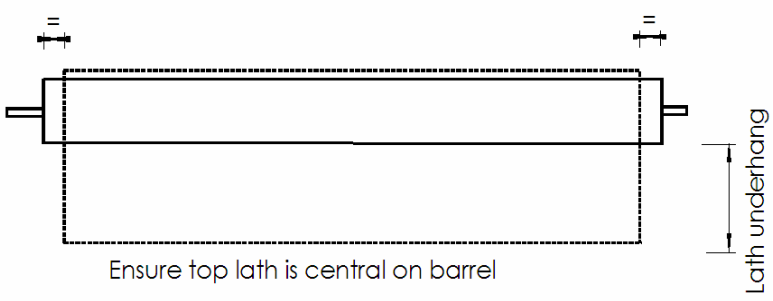


Diagram 8

The curtain lath is delivered in pre-assembled four lath sections, slide each four lath section onto the installed lath (Diagram 9). Fit the plastic endlock to the top lath of the last installed four lath curtain section using steel rivets. After every eighth lath has been fitted rotate the barrel using the haul chain to lift the curtain upwards by eight laths to enable the lath to be fitted at the same height and to ensure that the endlocks are in line and the coil forms properly.

Diagram 9

Repeat for all four lath sections until bottom section with seal has been fitted.

Bottom Lath Section

4.10 Installation of Guides

Lift left hand guide and stand it up locating the hanging section of curtain lath into the top section of the guide leaving a gap of 10mm from the inside face of the guide to the endlock (diagram 7). Mark the guide angle position on the structure and using a spirit level, ensure the guide is plumb and straight to this mark. Hold (clamp) guide in position and mark fixing holes. Remove guide and drill fixing holes (refer to appendix 1 for bolt size) for full height of guide . Replace guide and fix (refer to appendix 1 for bolt size). Do not fully tighten at this stage.

Repeat this procedure with the left hand guide ensuring a 10mm gap between the inside face of the guide and the endlock/windlock is maintained. When satisfied that the guides are parallel, plumb and correctly positioned, tighten all guide fixing bolts (refer to appendix 3 for torque settings).

The fixings needed for mounting the guides to the wall or opening structure are not included with the door! The installer is responsible for ensuring that the opening structure is structurally strong enough to carry the door.
The installer is also responsible for the correct fixings for the relevant structure (brick, concrete, steel, wood).
The value used for measurement depends on the wind load class and door size!
If class 2: 620 Pa = N/m² (break load)
If class 3: 965 Pa = N/m² (break load)
If class 4: 1375 Pa = N/m² (break load)

Example: door size 5000x4000 20m²
Wind load class 3

Force against door panel: ➔ F=PxA 20x620= 19300N

Installed door with curtain, guides and motor fitted

4.11 Manually Operate the Door

Gently fully raise and lower the door using the haul chain whilst watching the curtain feed into the top of the guides to ensure that the endlock (windlocks when fitted) run smoothly and do not snag.

5. Installation of the control panel

The installation of the control must be carried out in accordance with the installation manual provided by the supplier of the electric drive and control.

SAFETY DIRECTIONS
Explanation of warnings:

These abridged operating instructions contain directions which are important for using the SAFEDRIVE® appropriately and safely read in conjunction with manufacturers installation manual located within the motor delivery box.

The individual directions have the following meaning:

DANGER
This indicates danger to the life and health of the user if the appropriate precautions are not taken.

CAUTION
Please observe the safety and accident prevention regulations valid for the specific application.

The SAFEDRIVE® must be installed with the authorised coverings and protective devices. Care should be taken that any seals are fitted correctly and screw couplings are tightened correctly.

Check live cables and conductors regularly for insulation faults or breakages.
When a fault is detected in the cabling, the defective cabling should be replaced after immediately switching off the mains supply.
Before starting operation, check whether the permissible mains voltage range of the devices corresponds to the local mains voltage.
With three phase motor connection it must have right phase rotation

After the SAFEDRIVE® has been fitted we recommend the following procedure to rapidly achieve a fully functioning door.

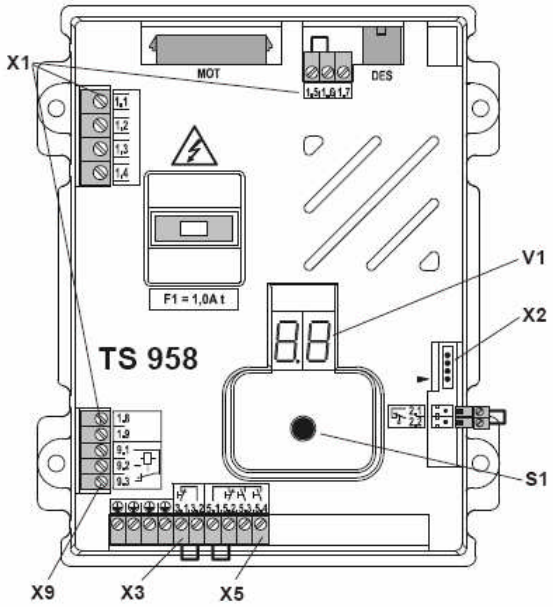
1. Installation of TS958 Enclosure
2. Installation of pluggable interconnection cable (motor to control panel)
3. Check Mains supply
4. Check Phase rotation
5. Programming - Rapid limit adjustment
6. Programming – Deadmans closing, Impulse opening
7. Emergency manual operation

5.1 Installation of TS958 Enclosure

Before mounting the enclosure, the surface has to be checked for flatness, slope and freedom from vibrations. Mounting must be vertical. It is important that the door can be clearly seen from the position of the control through-out its travel

5.2 Installation of pluggable interconnection cable (motor to control panel)

After the drive and control are fitted they can be connected with a plug-in cable. The cable has plugs on each end for easy fitting. The plugs for motor and control panel are different and cannot be interchanged.



Description:
X1 Mains supply S1 Selector switch
external supply 230V V1 7-segment display
1.9 = L1 fused with F1 = 1A MOT Motor connection
1.8 = N DES Limit connection
(only with 3 x 400V, N, PE und 1 x 230V, N, PE)
Internal push button
X2 Wicket door (spiral cable)plug
X3 Emergency push button
X5 Three push button / key switch
X9 Potential free relay contact

5.3 Check Mains Supply

DANGER! to life and health through electric shock.
Before connecting the mains supply must be switched OFF.

Important note!
The bridge must be fitted into the right terminal otherwise the print could be destroyed.

External fuse!
The control must be saved against short circuit and overload by an external fuse, max. 10A delayed, in the mains supply. An automatic cut off switch is required for the three phase or single phase supply.

When connecting control to mains supply a mains isolator switch or (16A CEE – plug) according to EN 12453 is required. The supply disconnect device (Main switch or CEE plug) must be installed between 0,6m and 1,7m above floor level.

5.4 Check Phase rotation

With the door partially opened, using the manual chain (Restore the door to electric drive mode by pulling the green handle). Check that the door opens momentarily when the up button is pressed. If the door closes when the up button is pressed, switch off the isolator and take out the red three phase plug. Unscrew the two pins and reverse L1 and L2 as shown in Diagram 10. Connect the red three phase plug and switch on the isolator.

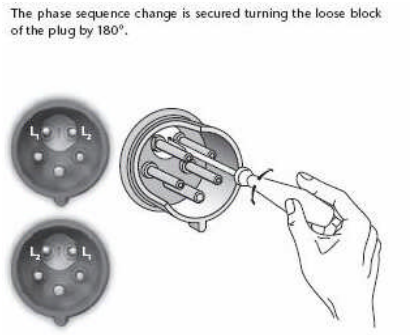
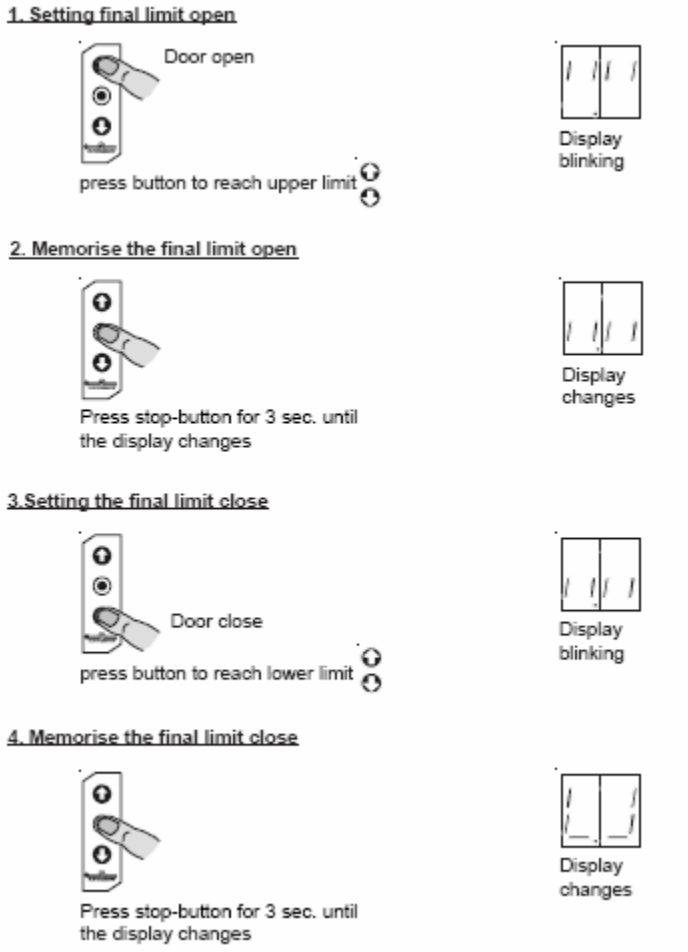


Diagram 10

5.5 Programming - Rapid limit adjustment

When the phase rotation has been checked the Rapid limit adjustment can be made as follows:


1. Setting final limit open
Door open
press button to reach upper limit
Display blinking
2. Memorise the final limit open
Press stop-button for 3 sec. until the display changes
Display changes
3.Setting the final limit close
Door close
press button to reach lower limit
Display blinking
4. Memorise the final limit close
Press stop-button for 3 sec. until the display changes
Display changes

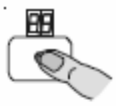
The final setting can be made with the fine adjustment (Refer to manufacturers manual). Safety limits and pre-limits are automatically adjusted

The Rapid limit adjustment is finished
The door can now be moved in DEADMAN mode UP/DOWN

5.6 Programming – (Optional) Deadmans closing, Impulse opening

After limits have been set and phase rotation has been checked, the following programming can be carried ot to give deadmans closing operation and one push to open operation.

1. Enter programming Mode



Press selector switch for 3 sec. until display = 00

2. Chose programme 2.5 and confirm

Turn selector and Press selector

3. Choose programme 1 and confirm

Turn selector and Press selector

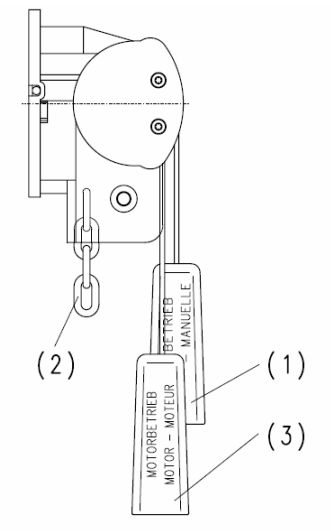
4. Exit programming

Turn selector until display = 00 and Press selector

For further programming options refer to the manufacturers manual.

5.7 Emergency Manual Operation

Pull the red handle (1) of the engaging and disengaging mechanism lightly until it stops (max operating force 50N) the control circuit is now interrupted, it is no longer possible to operate the door electrically. The door can now be opened and closed by pulling the chain (2).
Pull the green handle (3) of the engaging and disengaging mechanism Lightly (max operating force 50N) until it stops, the control circuit is re-made and the door is again electrically operational



6.0 Optional extras

Optional extras for installation:

- Lintol draught brush
- Galvanised 20 swg hoods
- Motor covers
- Galvanised 20 swg fascia
- Vision windows
- Wicket Doors
- Lockable shoot bolts (cut out switches for electric doors)
- Optical safety bottom edge
- Plastisol finish to door lath
- Powder coat finish to door lath, guides, hood and fascia

7.0 Commissioning

This DOCOROLL T100 insulated roller shutter door should be commissioned by an experienced fitter. Commissioning must be recorded in writing. The person responsible for the installation should complete the certificate of conformity and affix the CE label. Affixing the CE label certifies compliance with EN directives.

8.0 Dismantling

CAUTION DANGER!

- Dismantling should only be performed by qualified installation/disassembly personnel.
- Ensure only installation / dismantling personnel are present within the work area and keep others away, if necessary by using appropriate barriers and safety devices.
- Ensure no electric components are live.
- Ensure correct lifting equipment is used.
- Ensure adequate light when disassembling.
- For details and drawings of the various parts to be dismantled, please refer to the installation instructions in this manual.

Procedure:

Raise the door to the fully open position (manually or electrically).
Unplug the door from the 3 phase power supply.
Unbolt the left hand guide from the building structure and remove.
Repeat for the right hand guide.

Manually lower door to approx 1000mm above floor level.
The curtain will be taken apart in sections. Drill out rivets to one endlock on every 6th lath and slide the lath section off of the hanging curtain.
Repeat until all lath sections have been removed.
Unplug the motor from the control panel.
Remove control panel from structure.
Remove steel key from hollow shaft of motor.

Undo bolt at foot of the motor and slide motor from shaft.
Undo bolts securing bearings to both endplates. Barrel shafts sit in slotted endplates.

Safely secure barrel ready for lifting.
Unbolt and remove safety angles to rear of endplates and lift barrel down to floor.
Unbolt endplates from building structure.

8.1 Disposal

All parts of this DOCOROLL T100 insulated roller shutter door can be easily identified and recycled.
Separate the parts after dismantling.
Note: Materials can only be recycled if they are returned separately.
Deliver the materials to the relevant body responsible for processing the separated materials.

Appendix 1 Fixing guide angles

CLASS 5	1001 [Pa]												(1600 pascal is result from test, but calculated with 1001)
Result:	fixations	8	M8x1,25 class 8,8										

Vertical angle to Structure

HEIGHT \ WIDTH	3000	3250	3500	3750	4000	4250	4500	4750	5000	5250	5500	5750	6000
3000	8	8	8	8	8	8	10	10	10	10	10	12	12
3250	8	8	8	8	8	10	10	10	10	10	12	12	12
3500	8	8	8	8	10	10	10	10	10	12	12	12	12
3750	8	8	8	10	10	10	10	12	12	12	12	12	14
4000	8	8	10	10	10	10	12	12	12	12	12	14	14
4250	8	10	10	10	10	12	12	12	12	12	14	14	14
4500	10	10	10	10	12	12	12	12	12	14	14	14	16
4750	10	10	10	10	12	12	12	12	14	14	14	16	18
5000	10	10	10	12	12	12	12	12	14	14	16	18	18
5250	10	10	12	12	12	12	12	14	14	16	18	18	18
5500	10	12	12	12	12	12	14	14	16	18	18	18	20
5750	10	12	12	12	12	14	14	16	18	18	18	20	20
6000	12	12	12	12	14	14	16	18	18	18	20	20	20

CLASS 5	1001 [Pa]	(1600 pascal is result from test, but calculated with 1001)
Result:	Minimum Distance of M8 (8.8) bolt and Nut (8)	

Guides to vertical angle

HEIGHT \ WIDTH	3000	3250	3500	3750	4000	4250	4500	4750	5000	5250	5500	5750	6000
3000	500	500	500	500	500	500	500	500	500	500	500	500	500
3250	500	500	500	500	500	500	500	500	500	500	500	500	500
3500	500	500	500	500	500	500	500	500	500	500	500	500	500
3750	500	500	500	500	500	500	500	500	500	500	500	500	500
4000	500	500	500	500	500	500	500	500	500	500	500	500	500
4250	500	500	500	500	500	500	500	500	500	500	500	500	500
4500	500	500	500	500	500	500	500	500	500	500	500	500	500
4750	500	500	500	500	500	500	500	500	500	500	500	500	500
5000	500	500	500	500	500	500	500	500	500	500	500	500	500
5250	500	500	500	500	500	500	500	500	500	500	500	500	500
5500	500	500	500	500	500	500	500	500	500	500	500	500	500
5750	500	500	500	500	500	500	500	500	500	500	500	500	500
6000	500	500	500	500	500	500	500	500	500	500	500	500	500

Appendix 2 Fixing Endplate Angles

fixations	8	M10x1.5 class 8.8
	8	M12x1.75 class 8.8

Endplates to Structure

HEIGHT \ WIDTH	3000	3250	3500	3750	4000	4250	4500	4750	5000	5250	5500	5750	6000
3000	M10	M10	M10	M10	M10	M10	M10	M10	M10	M10	M10	M10	M12
3250	M10	M10	M10	M10	M10	M10	M10	M10	M10	M10	M12	M12	M12
3500	M10	M10	M10	M10	M10	M10	M10	M10	M10	M12	M12	M12	M12
3750	M10	M10	M10	M10	M10	M10	M10	M12	M12	M12	M12	M12	M12
4000	M10	M10	M10	M10	M10	M10	M12	M12	M12	M12	M12	M12	M12
4250	M10	M10	M10	M10	M10	M12	M12	M12	M12	M12	M12	M12	M12
4500	M10	M10	M10	M10	M12	M12	M12	M12	M12	M12	M12	M12	M12
4750	M10	M10	M10	M12	M12	M12	M12	M12	M12	M12	M12	M12	M12
5000	M10	M10	M10	M12	M12	M12	M12	M12	M12	M12	M12	M12	M12
5250	M10	M10	M12	M12	M12	M12	M12	M12	M12	M12	M12	M12	M12
5500	M10	M12	M12	M12	M12	M12	M12	M12	M12	M12	M12	M12	M12
5750	M10	M12	M12	M12	M12	M12	M12	M12	M12	M12	M12	M12	M12
6000	M12	M12	M12	M12	M12	M12	M12	M12	M12	M12	M12	M12	M12

Appendix 3 Torque settings for bolt installation

		Required Torque	Max. Torque
Torque Bolt and nut	M8	23 Nm	33
Torque Bolt and nut	M10	46 Nm	66
Torque Bolt and nut	M12	79 Nm	112

Appendix 4 EN 13241-1 Classification

Mechanical Aspects	Safety In Use of Power Operated Doors	BS EN 12604	
Water Tightness		BS EN 12489	
Resistance To Wind Load		BS EN 12444	Class 5
Thermal Resistance	Lath Section	BS EN 12428	0.69 W/M²K
Air Permeability		BS EN 12427	
Closing Forces	Automatic doors only	BS EN 12453 – 5.1.1.5	
Anti Fall Back Device		BS EN 12453 – 5.1.1.5	
Side Guide Protection		BS EN 12604 – 4.5.1	
Durability	Mechanical Performance	BS EN 12635 – 4.1.1.1	
Installation Instructions		BS EN 12635 – 4.1.1.1	
Optical Safety Edge	Self Monitoring	BS EN 12453 – 5.1.1.5	
Electrical Safety Protection			
Acoustic value	Lath Sections		18dB(A)
Installation Instructions			
Type Approval			
CE Mark	Declaration of Conformity		